Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL QUALITY MEASURES CLEARINGHOUSE

General

Title

Acute myocardial infarction (AMI)/chest pain: percentage of ED AMI patients or chest pain patients who received aspirin within 24 hours before ED arrival or prior to transfer.

Source(s)

Centers for Medicare and Medicaid Services (CMS). Hospital outpatient quality reporting specifications manual, version 11.0. Baltimore (MD): Centers for Medicare and Medicaid Services (CMS); Effective 2018 Jan. various p.

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of emergency department (ED) patients 18 years and older with acute myocardial infarction (AMI) or chest pain who received aspirin within 24 hours before ED arrival or prior to transfer.

Rationale

The early use of aspirin in patients with acute myocardial infarction (AMI) results in a significant reduction in adverse events and subsequent mortality. The benefits of aspirin therapy on mortality are comparable to fibrinolytic therapy. The combination of aspirin and fibrinolytics provides additive benefits for patients with ST-segment elevation myocardial infarction ("Randomised trial," 1988). Aspirin is also effective in patients with non-ST-segment elevation myocardial infarction (Theroux et al., 1988; "Risk of myocardial infarction," 1990). National guidelines strongly recommend early aspirin for patients hospitalized with AMI (Antman et al., 2008; Wright et al., 2011).

Evidence for Rationale

Antman EM, Hand M, Armstrong PW, Bates ER, Green LA, Halasyamani LK, Hochman JS, Krumholz HM, Lamas GA, Mullany CJ, Pearle DL, Sloan MA, Smith SC Jr, Anbe DT, Kushner FG, Ornato JP, Pearle DL, Sloan MA, Jacobs AK, Adams CD, Anderson JL, Buller CE, Creager MA, Ettinger SM, Halperin JL, Hunt SA, Lytle BW, Nishimura R, Page RL, Riegel B, Tarkington LG, Yancy CW, Canadian Cardiovascular Society, American Academy of Family Physicians, American College of Cardiology, American Heart Association. 2007 focused update of the ACC/AHA 2004 guidelines for the management of patients with ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2008 Jan 15;51(2):210-47. [90 references] PubMed

Centers for Medicare and Medicaid Services (CMS). Hospital outpatient quality reporting specifications manual, version 11.0. Baltimore (MD): Centers for Medicare and Medicaid Services (CMS); Effective 2018 Jan. various p.

Krumholz HM, Anderson JL, Bachelder BL, Fesmire FM, Fihn SD, Foody JM, Ho PM, Kosiborod MN, Masoudi FA, Nallamothu BK, American College of Cardiology/American Heart Association Task Force on Performance Measures, American Academy of Family Physicians, American College of Emergency Physicians, American Association of Cardiovascular and Pulmonary Rehabilitation, Society for Cardiovascular Angiography and Interventions, Society of Hospital Medicine. ACC/AHA 2008 performance measures for adults with ST-elevation and non-ST-elevation myocardial infarction [trunc]. J Am Coll Cardiol. 2008 Dec 9;52(24):2046-99.

Randomised trial of intravenous streptokinase, oral aspirin, both, or neither among 17,187 cases of suspected acute myocardial infarction: ISIS-2. ISIS-2 (Second International Study of Infarct Survival) Collaborative Group. Lancet. 1988 Aug 13;2(8607):349-60. PubMed

Risk of myocardial infarction and death during treatment with low dose aspirin and intravenous heparin in men with unstable coronary artery disease. The RISC Group. Lancet. 1990 Oct 6;336(8719):827-30. PubMed

Theroux P, Ouimet H, McCans J, Latour JG, Joly P, Levy G, Pelletier E, Juneau M, Stasiak J, deGuise P, et al. Aspirin, heparin, or both to treat acute unstable angina. N Engl J Med. 1988 Oct 27;319(17):1105-11. PubMed

Wright RS, Anderson JL, Adams CD, Bridges CR, Casey DE, Ettinger SM, Fesmire FM, Ganiats TG, Jneid H, Lincoff AM, Peterson ED, Philippides GJ, Theroux P, Wenger NK, Zidar JP, Anderson JL, Adams CD, Antman EM, Bridges CR, Califf RM, Casey DE, Chavey WE, Fesmire FM, Hochman JS, Levin TN, Lincoff AM, Peterson ED, Theroux P, Wenger NK, Wright RS. 2011 ACCF/AHA focused update of the Guidelines for the Management of Patients with Unstable Angina/Non-ST-Elevation Myocardial Infarction (updating the 2007 guideline): a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines developed in collaboration with the American College of Emergency Physicians, Society for Cardiovascular Angiography and Interventions, and Society of Thoracic Surgeons. J Am Coll Cardiol. 2011 May 10;57(19):1920-59. PubMed

Primary Health Components

Acute myocardial infarction (AMI); chest pain; angina; acute coronary syndrome; aspirin

Denominator Description

Emergency department (ED) acute myocardial infarction (AMI) or chest pain patients (with *Probable Cardiac Chest Pain* as defined in the Data Dictionary)

Included populations:

An *Evaluation and Management (E/M) Code* for ED encounter (as defined in Appendix A, Table 1.0 of

the original measure documentation), and
Patients discharged/transferred to a short-term general hospital for inpatient care, or to a federal healthcare facility, and
An *International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Principal Diagnosis Code* for AMI (as defined in Appendix A, OP Table 1.1 of the original measure documentation) or an *ICD-10-CM Other Diagnosis Codes* for angina, acute coronary syndrome, or chest pain (as defined in Appendix A, OP Table 1.1a of the original measure documentation) with *Probable Cardiac Chest Pain* (as defined in the Data Dictionary)

See the related "Denominator Inclusions/Exclusions" field.

Numerator Description

Emergency department (ED) acute myocardial infarction (AMI) or chest pain patients (with *Probable Cardiac Chest Pain* as defined in the Data Dictionary) who received aspirin within 24 hours before ED arrival or prior to transfer (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

Unspecified

Extent of Measure Testing

This measure is being collected by hospitals paid under the Outpatient Prospective Payment System; about 4,000 hospitals across the nation. The measure has been collected since April 1, 2008. In 2014, validity testing of critical data elements was performed on this measure for the measure period of January 1, 2012 to December 31, 2012.

Evidence for Extent of Measure Testing

Larbi F. Personal communication: CMS hospital outpatient department quality measures. 2014 Jul 24.

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Emergency Department

Hospital Outpatient

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Single Health Care Delivery or Public Health Organizations

Statement of Acceptable Minimum Sample Size

Specified

Target Population Age

Age greater than or equal to 18 years

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Timeliness

Data Collection for the Measure

Case Finding Period

Encounter dates: January 1 through December 31

Denominator Sampling Frame

Patients associated with provider

Denominator (Index) Event or Characteristic

Clinical Condition

Encounter

Institutionalization

Patient/Individual (Consumer) Characteristic

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions
Emergency department (ED) acute myocardial infarction (AMI) or chest pain patients (with *Probable Cardiac Chest Pain* as defined in the Data Dictionary)

Included populations:

> An *Evaluation and Management (E/M) Code* for ED encounter (as defined in Appendix A, Table 1.0 of the original measure documentation), and
> Patients discharged/transferred to a short-term general hospital for inpatient care, or to a federal healthcare facility, and
> An *International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Principal Diagnosis Code* for AMI (as defined in Appendix A, OP Table 1.1 of the original measure documentation) or an *ICD-10-CM Other Diagnosis Codes* for angina, acute coronary syndrome, or chest pain (as defined in Appendix A, OP Table 1.1a of the original measure documentation) with *Probable Cardiac Chest Pain* (as defined in the Data Dictionary)

Exclusions

Patients less than 18 years of age
Patients with a documented *Reason for No Aspirin on Arrival* (as defined in the Data Dictionary)

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions
Emergency department (ED) acute myocardial infarction (AMI) or chest pain patients (with *Probable Cardiac Chest Pain* as defined in the Data Dictionary) who received aspirin within 24 hours before ED arrival or prior to transfer

Exclusions
None

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

Paper medical record

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

- An electronic data collection tool is made available from vendors or facilities can download the free CART tool. Paper tools for manual abstraction are also available for the CART tool. These tools are posted on the QualityNet Web site .
- Acute Myocardial Infarction (AMI) Hospital Outpatient Population Algorithm OP-1 through OP-5
- Algorithm Narrative for OP-1 through OP-5: AMI Hospital Outpatient Population
- OP-4: Aspirin at Arrival Algorithm
- Algorithm Narrative for OP-4: Aspirin at Arrival
- Chest Pain Hospital Outpatient Population Algorithm OP-4 and OP-5
- Algorithm Narrative for OP-4 and OP-5: Chest Pain Hospital Outpatient Population

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a higher score

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Identifying Information

Original Title

OP-4: hospital outpatient acute myocardial infarction and hospital outpatient chest pain: aspirin at arrival.

Measure Collection Name

Hospital Outpatient Quality Measures

Measure Set Name

Acute Myocardial Infarction (AMI)

Submitter

Centers for Medicare & Medicaid Services - Federal Government Agency [U.S.]

Developer

Centers for Medicare & Medicaid Services - Federal Government Agency [U.S.]

Funding Source(s)

United States Department of Health and Human Services

Composition of the Group that Developed the Measure

The measure was developed by the Centers for Medicare & Medicaid Services (CMS) Contractor at the time, the Oklahoma Foundation for Medical Quality Contractor. The measure continues to be maintained

by CMS and its current measure maintenance contractor, Mathematica Policy Research, in conjunction with a multi-disciplinary Technical Expert Panel.

Financial Disclosures/Other Potential Conflicts of Interest

None

Measure Initiative(s)

Hospital Compare

Hospital Outpatient Quality Reporting Program

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2018 Jan

Measure Maintenance

Twice yearly

Date of Next Anticipated Revision

None

Measure Status

This is the current release of the measure.

This measure updates a previous version: Centers for Medicare and Medicaid Services (CMS). Hospital outpatient quality reporting specifications manual, version 9.0a. Baltimore (MD): Centers for Medicare and Medicaid Services (CMS); Effective 2016 Jan 1. various p.

Measure Availability

Source available from the QualityNet Web site .

Check the QualityNet Web site regularly for the most recent version of the specifications manual and for the applicable dates of discharge.

NQMC Status

This NQMC summary was completed by ECRI Institute on February 20, 2009. The information was verified by the measure developer on May 8, 2009.

This NQMC summary was retrofitted into the new template on May 20, 2011.

This NQMC summary was updated by ECRI Institute on June 19, 2012. The information was verified by the measure developer on August 2, 2012.

This NQMC summary was updated by ECRI Institute on May 7, 2014. The information was verified by the measure developer on July 3, 2014.

This NQMC summary was updated by ECRI Institute on December 22, 2015. The information was verified by the measure developer on January 28, 2016.

This NQMC summary was updated again by ECRI Institute on January 16, 2018. The information was verified by the measure developer on February 7, 2018.

Copyright Statement

The Hospital Outpatient Quality Reporting Specifications Manual is periodically updated by the Centers for Medicare & Medicaid Services. Users of the Hospital OQR Specifications Manual must update their software and associated documentation based on the published manual production timelines.

Production

Source(s)

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